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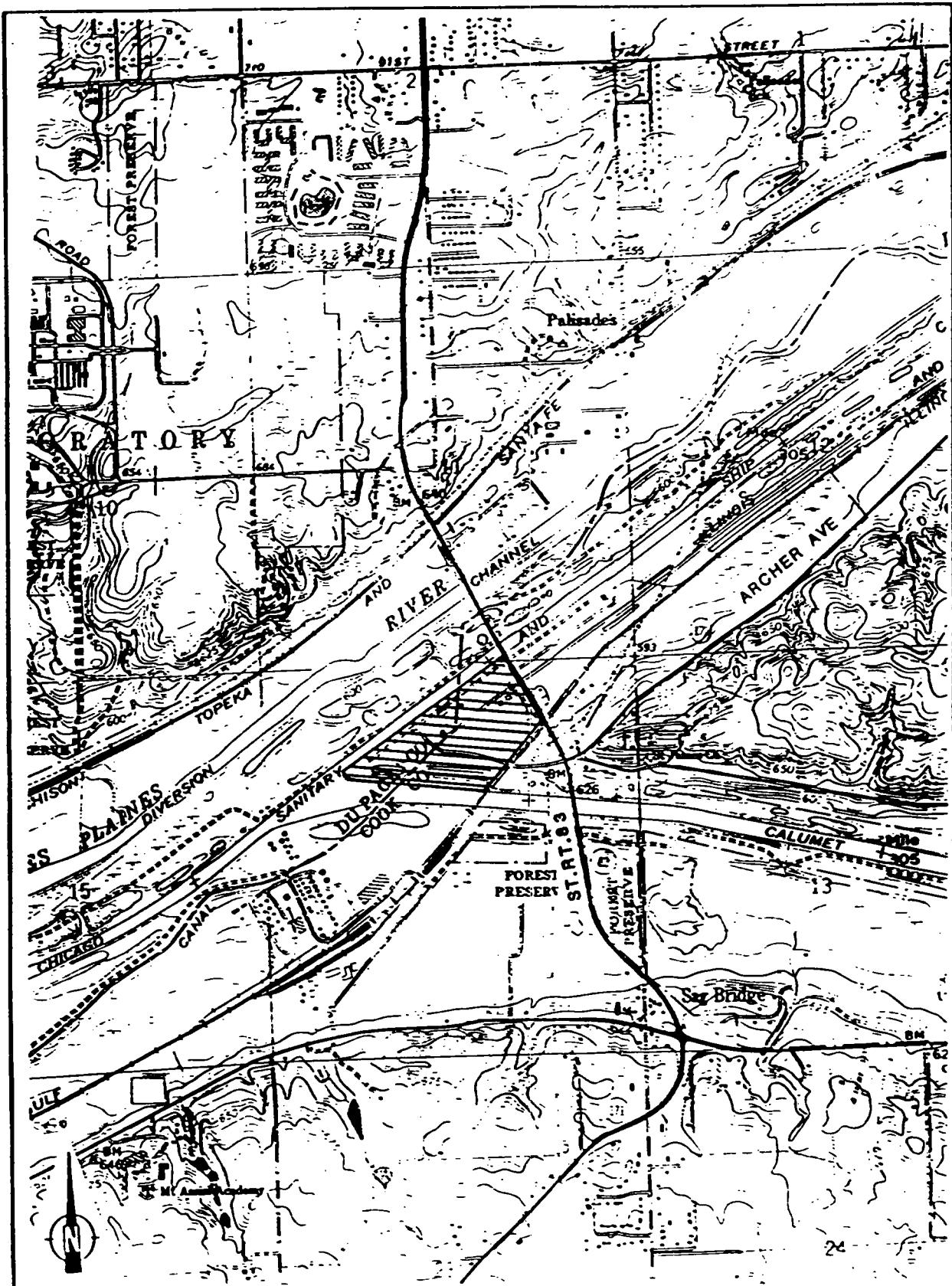
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2.0 BACKGROUND INFORMATION

2.1 Site Location

The Hannah Marine site consists of a 97-acre parcel in Lemont, Illinois, which encompasses unincorporated portions of both Cook and DuPage Counties, N½ . Section 14 , T37N R11E. It is located at the tip of a peninsula formed by the confluence of the Calumet Sag Channel to the south and the Chicago Sanitary and Ship Canal to the north. Cutting across ^{mid section} the site in an east-west direction is the Illinois & Michigan Canal. The Des Plaines River, located ≈ 1000 feet to the northwest, flows parallel to the Chicago Sanitary + Ship Canal. (Refer to Figure 1)

The site is bordered by Route 83 to the east



SOURCE: USGS, SAG BRIDGE, IL QUADRANGLE, 1963, PHOTOREVISED 1973 7.5 MINUTE SERIES, 1:24000

SCALE
0 0.5 1 MILE

FIGURE 1 SITE LOCATION

and the Illinois Central Gulf Railroad to the south-east. The Chicago Sanitary & Ship Canal and the Calumet Sag Channel border the site in all remaining directions. (USGS 1963)

2.2 SITE FEATURES

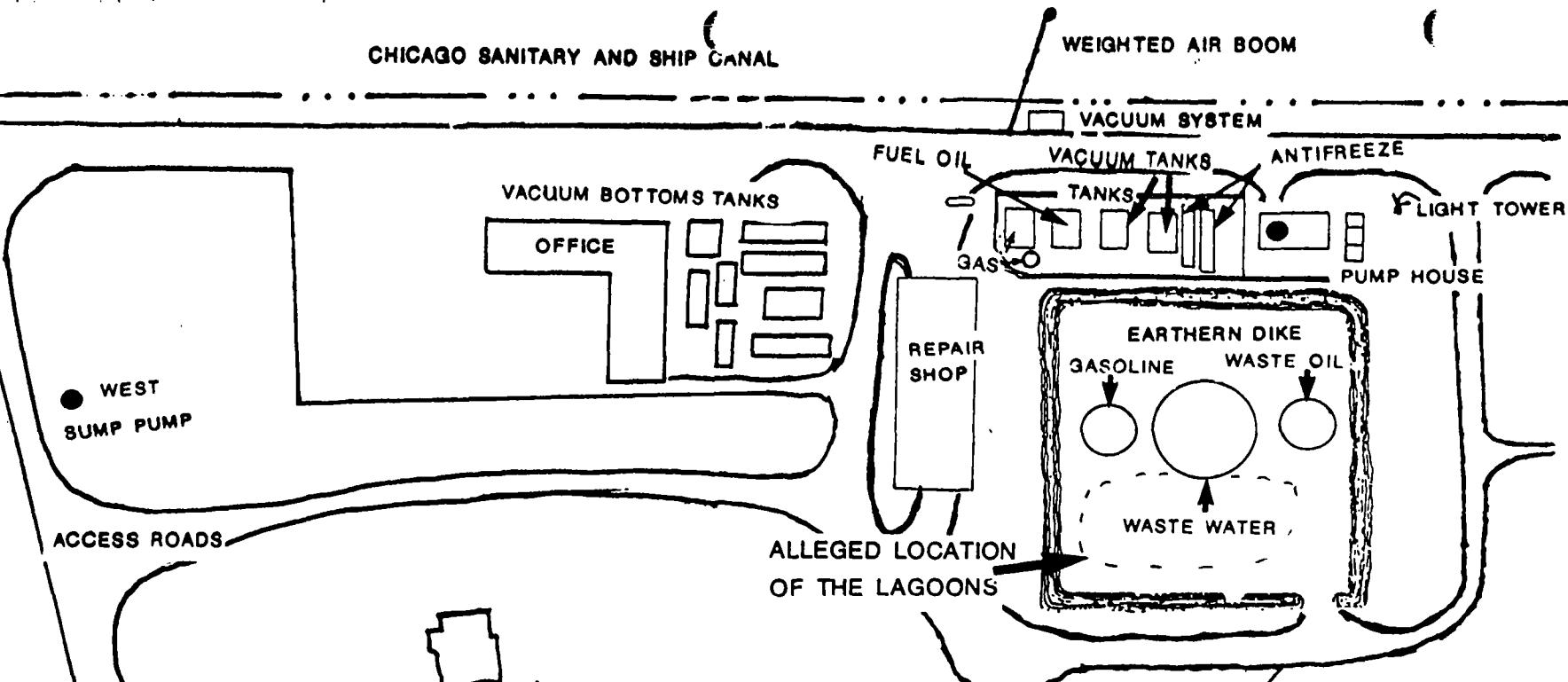
Hannah Marine operates an active facility involved primarily in the transportation of bulk liquid chemicals and petroleum products by barge. (USEPA 1980) Its operations include a river barge cleaning and repair yard with docks on the south side of the Chicago Sanitary and Ship Canal. (E+E 1986)

Current operations include vacuuming storage compartments of cargo vessels of any remaining chemical products and then steam cleaning the

Compartments with detergent to remove any chemical residue on the walls and floor. The vacuumed bottom waste is stored in an above ground tank farm located near the main office building. Wash water waste is stored in a large 436,000 gallon, above-ground tank on the east side of the facility. This tank is situated in an earthen-bermed area approximately 160 feet x 150 feet. The berm is 4 feet thick and approximately 2 feet high. Two smaller 60,000 gallon tanks are approximately 10 feet east and west of the waste water tank, and contain waste oil and gasoline respectively. (Refer to Figure 2) ..

A series of six above-ground tanks are located to the northwest of the bermed area and are aligned

CHICAGO SANITARY AND SHIP CANAL



LEGEND

● WELL

SCALE

0 50 100 150 FT

● EAST SUMP PUMP

FIGURE 2 SITE FEATURES MAP

- between the cleaning pump house and repair shop.

These tanks include a 7,000 gallon and a 12,000 gallon gasoline storage tank, a 12,000 gallon fuel oil tank, two 12,000 gallon vacuum tanks and a 5,000 gallon and a 4500 gallon antifreeze storage tanks

The site is primarily covered with gravel
with some vegetation along the water ways. Concrete
bulkheads border the canal and channels.

2.3 SITE HISTORY The Metropolitan Sanitary District (MSD) retain title to the site property. In 1990 MSD changed their name to Metropolitan District (Sustech, 1991). Water Reclamation, Hannah Marine began their barge operations in 1951.

From 1951-1958 all the chemical residue and washwater

was allegedly discharged directly into the waters of the

Canal (Hess 1986) This practice was discontinued at the

(Ecology & Environment, 1998)
Insistence of the Metropolitan Sanitary District (MSD). From

1958 to 1978 the facility utilized two unlined on site retention lagoons to dispose of their wastewater (EEG 1986)

These lagoons were situated on the east side of the site,
(Refer to Figure 2)

near the east sump location. File information indicates these lagoons were located within the current bermed area (Schroeder 1979) The ^{unlined} lagoons were set in permeable

Silurian dolomite bedrock that occurs at or near the surface

in the vicinity of the site (Ziegel et al, 1962) and it is

assumed that the wastewater would

percolate down

into the bedrock, thereby controlling water level. Over the

twenty year period, approximately 20,000,000

gallons of wash-water waste was generated. (USEPA 1980)

In November, 1978, the MSD ordered Hannah Marine to cease its wastewater discharge into the lagoons and,

under threat of an eviction, ordered Hannah Marine to obtain a proper holding tank for the liquid waste. In addition, Hannah Marine was to dike the liquid waste that was currently present in the lagoons on-site and to comply with IEPA demands for clean-up procedures and future site storage, handling and waste disposition requirements (Schroeder 1979).

On November 16, 1979, a meeting with Hannah Marine, the MSD, the U.S. EPA and the IEPA was held to discuss the progress of clean-up activities at the site. According to site representatives, approximately 5000 gallons of ponded waste from the east lagoon had been collected and removed to Winthrop Harbor (BFI) for landfilling. The west lagoon had been diked according to MSD

- demands (Schroeder 1980). Hannah Marine then implemented its current system of on-site tank storage.

Contents of these tanks are shipped to ChemClean Company, East Chicago, Indiana, twice yearly (Barnas 1989).

In November 1980, Hannah Marine filed a Potential Hazardous Waste Permit Application (USEPA 1980) which resulted in a subsequent 1982 IEPA site inspection to determine RCRA compliance (Bechely 1982). Several deficiencies were observed including a lack of a detailed chemical and physical analysis of wastewater, and a lack of detailed description and quantity of each specific hazardous waste received, and subsequent methods of treatment, storage and disposal. Hannah Marine was

ordered to rectify all deficiencies or face enforcement

action by the USEPA pursuant to 40 USC 6928

(Bechely 1982). Hannah Marine complied to IEPA

requests in July 1982 (Lambert 1982).

Hannah Marine requested, and was granted, withdrawal of

Part B of the Hazardous Waste Permit Application # ILD069496248

in June, 1983 (Urgogoff 1983). Current RCRA status list

Hannah Marine as a regulated generator of hazardous waste

(Green 1990).

Lack of information concerning the follow-up of the

removal of the lagoons prompted the IEPA to prepare a

Potential Hazardous Waste Site Preliminary Assessment on

March 29, 1984. In response, a FIT-conducted screening

Site Inspection (SSI) was performed at the Hannah

Marine facility on May 8, 1985⁵ and included a general reconnaissance inspection as well as collection of three on-site groundwater samples, three sediment samples and one wastewater sample from an above-ground storage tank. (See Figure 3) Sample results revealed elevated levels of TCL compounds and TAL analytes. See Table 1 for complete list of these documented contaminants.

During the SSI, FIT observed the diking around the wastewater tanks was in poor condition and noted the absence of diking around the chemical storage tanks. In addition, solid waste, including old tires, and stained soils were observed in the area of the abandoned east lagoon (Ecology and Environment, 1986).

The IEPA conducted RCRA site inspections at the Hannah Marine Facility on August 15, 1986 and July 17, 1987. The

LOCATION	CMFND STATUS		MATRIX (✓)						DOCUMENTED COMPOUND AND CONCENTRATION OR ALLEGED COMPOUND AND RATIONALE	REFERENCE	
	DOCU	ALLEO	SOIL	SED	OW	SW	AIR	WSTE	OTHR		
On Site well	X				X					Vinyl Chloride (31.4 µg/L) Carbon Disulfide (88.5 µg/L) Trichloroethene (7.7 µg/L) Mercury (0.10 µg/L) 1,1,1-Trichloroethane (480 µg/L) 1,1-Dichloroethane (1360 µg/L) Vinyl Chloride (296 µg/L) Chloroethane (271 µg/L) Benzene (1470 µg/L) Toluene (1770 µg/L) Xylenes (770 µg/L) Mercury (0.10 µg/L)	EE 1986
West sump	↓	↓	↓		X						
East Sump	X		X							1,1,1-Trichloroethane (1090 µg/L) Chloroethane (45.7 µg/L) Carbon Disulfide (54.7 µg/L) Trichloroethene (2.75 µg/L) Toluene (59.8 µg/L) Ethylbenzene (78.1 µg/L) Xylenes (780 µg/L) Mercury (0.10 µg/L)	DATA
Process wastes	↓	↓	↓		X					STYRENE (136,000 µg/L) Trichloroethene (27.4 µg/L) Toluene (5210 µg/L) Ethylbenzene (1119 µg/L) Xylenes (252 µg/L)	DOCU & NTED HRS USABLE
	↓	↓									

Table 1
DOCUMENTED/ALLEGED TARGET COMPOUND LIST

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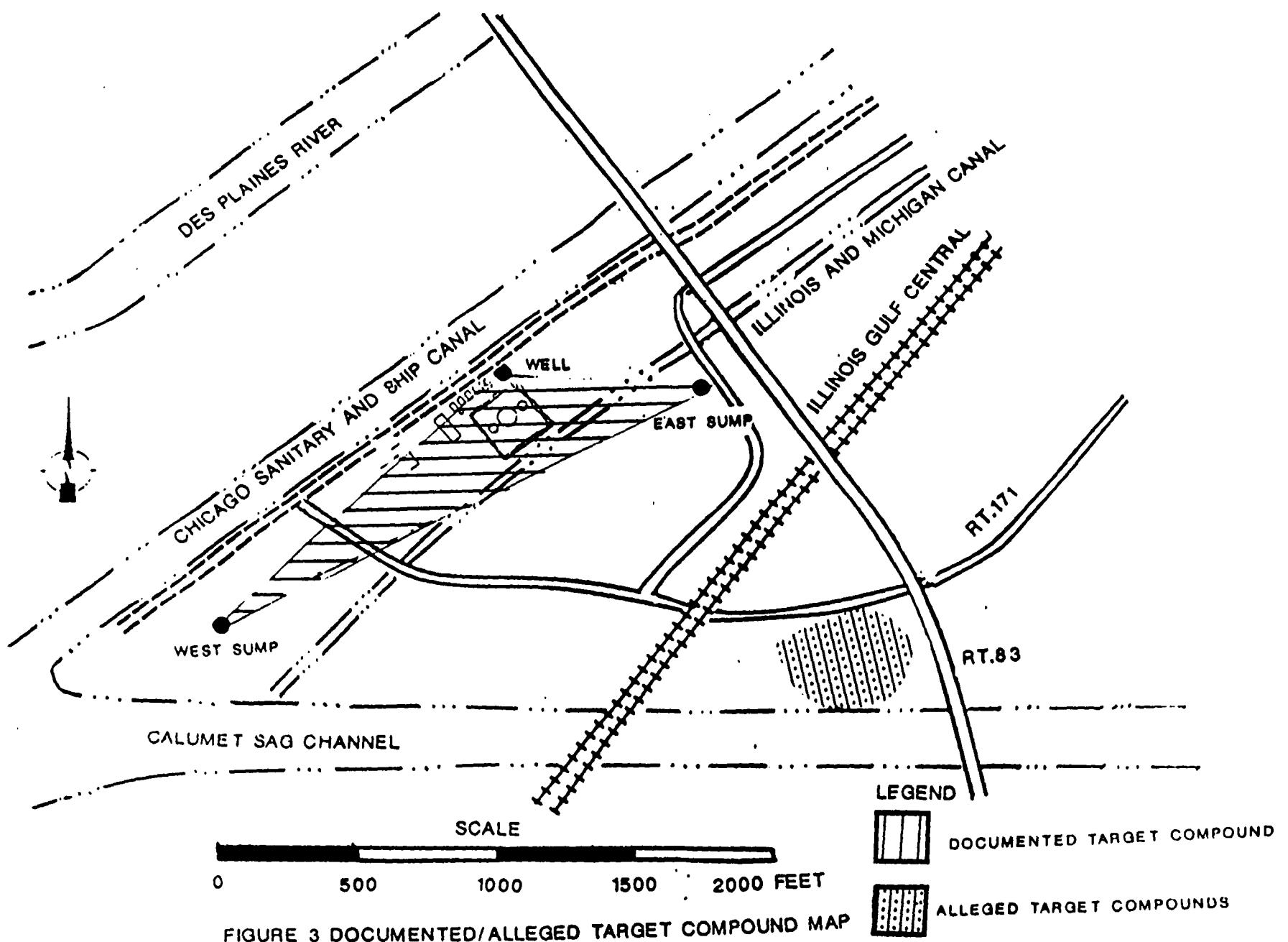


FIGURE 3 DOCUMENTED/ALLEGED TARGET COMPOUND MAP

latter inspection resulted in citing Hannah Marine with non-compliance of 35 Ill. Adm. Code Part 722 and given 15 days to respond (Kissinger 1987) Hannah Marine responded in Sept. 1987 and the IEPA considered the matter resolved (Rosenman 1987, Chappel 1987).

In 1990, a construction team was excavating a pit approximately 75 feet North of the Calumet Sag Channel, west of the junction of Archer Avenue and State Route 83. The construction team, contracted by the Metropolitan Water Reclamation District, noticed a heavy, #5 or #6 oil floating to the surface. The oil allegedly originated from the Hannah Marine site (Kelley, 1991). (See Figure 3 for location of alleged TCL compounds.)

2.4. GEOGRAPHY

The 97-acre site is located in an industrial area at the tip peninsula with low relief. Four surface water bodies border or intercept the site including the Calumet Sag Channel, The Chicago Sanitary & Ship Canal and the Illinois + Michigan Canal and the Des Plaines River (Refer to Figure 1)

The site is situated within the Des Plaines River Valley formed by dissection of a bedrock surface by an earlier river. The floor and walls of the valley walls are cut in bedrock (Zeizel et al., 1962).

The Natural drainage of the area in the vicinity of the site has been altered by man through construction of the Illinois Michigan Canal, the Chicago Sanitary & Ship Canal, and the Calumet Sag Channel. (Zeizel et al. 1962).

The climate within the area is a humid, continental type with cold, moderately dry winters and warm to hot, humid summers. Average precipitation is 34.2 inches. (Biegel et al 1962).